

*Zhu AF***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:
Masumitsu Ino et al.

Application No.: 09/424,544

Confirmation No.: 8128

Filed: November 24, 1999

Art Unit: 2673

For: LIQUID CRYSTAL DISPLAY

Examiner: J. J. Piziali

RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF (37 C.F.R. 41.37)

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is in response to the Notice of Non-Compliant Appeal Brief (37 C.F.R. 41.37) mailed on November 21, 2005. A Supplemental Appellant's Brief is provided in response to the Notice. If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: December 13, 2005

Respectfully submitted,

By _____
Ronald P. Kananen
Registration No.: 24,104
RADER, FISHMAN & GRAUER PLLC
1233 20th Street, N.W.
Suite 501
Washington, DC 20036
(202) 955-3750
Attorney for Appellant

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:
Masumitsu Ino et al.

Application No.: 09/424,544

Confirmation No.: 8128

Filed: November 24, 1999

Art Unit: 2673

For: LIQUID CRYSTAL DISPLAY

Examiner: J. J. Piziali

SUPPLEMENTAL APPELLANT'S BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is an Appeal Brief under 37 C.F.R. §41.37 appealing the final decision of the Examiner dated November 4, 2003. Each of the topics required by 37 C.F.R. §41.37 is presented herewith and is labeled appropriately.

This brief is in furtherance of the Final Office Action on November 4, 2003.

A Notice of Appeal was filed in this case on February 4, 2004.

I. REAL PARTY IN INTEREST

Sony Corporation of Tokyo, Japan ("Sony") is the real party in interest of the present application. An assignment of all rights in the present application to Sony was executed by the inventor and recorded by the U.S. Patent and Trademark Office at **reel 010555, frame 0866**.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

The status of the claims is as follows:

Claims 1-2 (canceled)

Claim 3 (rejected)

Claim 4 (canceled)

Claims 5-7 (rejected)

Claims 8-10 (canceled)

Claim 11 (rejected)

Claim 12 (canceled)

Claims 13-20 (rejected)

Claims 21-22 (canceled)

Claims 23-29 (rejected)

Claim 30 (canceled)

Claim 31 (rejected)

Claims 32-36 (canceled)

Claim 37 (rejected)

Claims 38-42 (canceled)

Claims 43-48 (rejected)

IV. STATUS OF AMENDMENTS

Subsequent to the final rejection of November 4, 2003, an Amendment After Final Action (37 CFR Section 1.116) has been filed on February 4, 2004.

The Advisory Action of February 25, 2004 indicated that the Amendment After Final Rejection Under 37 C.F.R. § 1.116 of February 4, 2004 had not been entered.

A Second Amendment After Final Rejection Under 37 C.F.R. § 1.116 and a Third Amendment After Final Rejection Under 37 C.F.R. § 1.116 have been filed on March 8, 2004.

The Advisory Action of July 21, 2004 indicated that the Second and Third Amendments After Final Rejection Under 37 C.F.R. § 1.116 had not been entered.

The Fourth and Fifth Amendments After Final Rejection Under 37 C.F.R. § 1.116 have been filed have been filed on July 22, 2004

The Advisory Action of October 21, 2004 indicated that the Fourth and Fifth Amendments After Final Rejection Under 37 C.F.R. § 1.116 had not been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to a liquid crystal display (LCD) and, more particularly, to a matrix type liquid crystal display in which a driver circuit to apply a signal potential to each pixel is provided as an external circuit of a liquid crystal display panel.

Claims 3, 5, 7, 11, 13-20 and 23-24 - Claims 5, 7, 11, 13-20 and 23-24 are dependent upon claim 3. Claim 3 is drawn to a liquid crystal display comprising:

a display portion 10 (specification at figure 6) in which a plurality of pixels are two-dimensionally arranged at intersecting points of gate lines 41 as many as a plurality of rows and signal lines 42 as many as a plurality of columns which are wired in a matrix shape (specification at figure 7, page 18, lines 20-27);

a plurality of driver circuits 44 for applying a signal potential to each pixel in said display portion through the signal lines 42 of said plurality of columns (specification at figure 7, page 19, lines 16-21); and

time-divisional switches 46 for time-divisionally sending a signal potential that is outputted from each of said plurality of driver circuits 44 to the signal lines 42 of said plurality of columns (specification at figures 7-9, page 20, line 25 to page 23, line 21),

characterized in that a time-dividing number of said time-divisional switches 46 is equal to 3 (specification at page 36, line 27),

the number of output terminals 45 of each of said plurality of driver circuits 44 is set to a measure of the total number of signal lines 42 of said plurality of columns,

the number of output terminals of each of said plurality of driver circuits is set to a same number (specification at figure 8, page 21, lines 14-24),

when a size of a frame portion adjacent to said display portion is specified, the number (n) of output terminals of each of said plurality of driver circuits is determined on the basis of said specified frame size by the number of lines which can be wired into a wiring region of said frame portion (specification at page 44, line 17 to page 45, line 4),

when the total number of signal lines of said plurality of columns that is decided by a display system is set to N, the number of said driver circuits is set to N/n , said total number of signal lines being different than said number (n) of output terminals (specification at page 44, lines 23-26).

Claim 6 - Claim 6 is dependent upon claim 3. Within claim 6, said plurality of driver circuits 44 are driver ICs arranged in an outside of a transparent insulating substrate on which said display portion 10 is formed (specification at figure 6).

Claims 25-29, 37, 43-47 - Claims 29, 37, 43-47 are dependent upon claim 25. Claim 25 includes the features of:

a display portion 10 (specification at figure 5), said display portion 10 having a plurality of gate lines 11, a plurality of signal lines 12 and a plurality of pixels 20 (specification at figure 3, page 9, lines 5-17),

a pixel 20 of said plurality of pixels 20 being located at an intersection of a gate line 11 of said plurality of gate lines 11 and a signal line 12 of said plurality of signal lines 12 (specification at figure 3); and

a plurality of driver circuits 14, 44 (specification at page 19, lines 5-6), said plurality of driver circuits 14, 44 including at least one general driver circuit and one remainder driver circuit (specification at figure 5),

each said at least one general driver circuit 14, 44 having a plurality of general driver circuit output terminals, a general driver circuit output terminal of said plurality of

general driver circuit output terminals 14, 44 providing a signal potential to one of said plurality of signal lines (specification at page 19, lines 5-6),

said remainder driver circuit having a plurality of remainder driver circuit output terminals, a remainder driver circuit output terminal of said plurality of remainder driver circuit output terminals providing another signal potential to another of said plurality of signal lines (specification at figure 5),

the quantity of remainder driver circuit output terminals being defined as $(S - (OP * (DC-1)))$ (specification at figure 5, page 13, lines 18-21), "S" being the quantity of said plurality of signal lines 12 (specification at page 13, lines 10-13), "OP" being the quantity of general driver circuit output terminals, and "DC" being the quantity of said plurality of driver circuits 14 (specification at figure 5, page 13, lines 21-26),

said quantity of general driver circuit output terminals being different than said quantity of remainder driver circuit output terminals (specification at figure 5).

Claim 31 - Claim 31 is dependent on claim 25. Claim 31 includes a surplus connecting region that does not contribute to said display portion does not occur on the said display (specification page 16, lines 22-24).

Claim 48 - Claim 48 is dependent upon claim 25. Within claim 48, the plurality of driver circuits are driver integrated circuits arranged in an outside of a transparent insulating substrate on which said display portion is formed (specification at figure 5).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issues presented for consideration in this appeal are as follows:

Whether the Examiner erred in rejecting claims 3, 5-7, 11, 13-20, 23-29, 31, 37, 43-48 were rejected under 35 U.S.C. 102 as allegedly being anticipated by U.S. Patent 4,825,203 issued to Takeda et al. (Takeda).

This issue will be discussed hereinbelow.

VII. ARGUMENT

In the Office Action of November 4, 2003:

The Examiner rejected claims 3, 5-7, 11, 13-20, 23-29, 31, 37, 43-48 under 35 U.S.C. 102 as allegedly being anticipated by Takeda.

For at least the following reasons, Appellant submits that this rejection is both technically and legally unsound and should therefore be reversed.

For purposes of this appeal brief only, and without conceding the teachings of any prior art reference, the claims have been grouped as indicated below.

Claim Groups:

Claims 3, 5, 7, 11, 13-20 and 23-24 stand or fall together.

Claim 6 stands or falls separately.

Claim 25-29, 37, 43-47 stand or fall together.

Claim 31 stands or falls separately.

Claim 48 stands or falls separately.

The Examiner erred in rejecting claims 3, 5-7, 11, 13-20, 23-29, 31, 37, 43-48 under 35 U.S.C.

102 as allegedly being anticipated by Takeda.

Claims 3, 5, 7, 11, 13-20 and 23-24

This rejection of these claims is respectfully traversed for at least the following reasons.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claims 5, 7, 11, 13-20 and 23-24 are dependent upon claim 3. Claim 3 is drawn to a liquid crystal display comprising:

a display portion 10 (specification at figure 6) in which a plurality of pixels are two-dimensionally arranged at intersecting points of gate lines 41 as many as a plurality of rows and signal lines 42 as many as a plurality of columns which are wired in a matrix shape (specification at figure 7, page 18, lines 20-27);

a plurality of driver circuits 44 for applying a signal potential to each pixel in said display portion through the signal lines 42 of said plurality of columns (specification at figure 7, page 19, lines 16-21); and

time-divisional switches 46 for time-divisionally sending a signal potential that is outputted from each of said plurality of driver circuits 44 to the signal lines 42 of said plurality of columns (specification at figures 7-9, page 20, line 25 to page 23, line 21),

characterized in that a time-dividing number of said time-divisional switches 46 is equal to 3 (specification at page 36, line 27),

the number of output terminals 45 of each of said plurality of driver circuits 44 is set to a measure of the total number of signal lines 42 of said plurality of columns,

the number of output terminals of each of said plurality of driver circuits is set to a same number (specification at figure 8, page 21, lines 14-24),

when a size of a frame portion adjacent to said display portion is specified, the number (n) of output terminals of each of said plurality of driver circuits is determined on the basis of said specified frame size by the number of lines which can be wired into a wiring region of said frame portion (specification at page 44, line 17 to page 45, line 4),

when the total number of signal lines of said plurality of columns that is decided by a display system is set to N, the number of said driver circuits is set to N/n , said total number of signal lines being different than said number (n) of output terminals (specification at page 44, lines 23-26).

Within the claims, the total number of signal lines is different than the number (n) of output terminals of each of the plurality of driver circuits.

Regarding the use of Takeda, calculations provided within the Office Action arguably teach the total number of signal lines in Takeda being the same as the number (n) of output terminals of each of the plurality of driver circuits.

However, the claimed invention provides that the total number of signal lines is different than the number (n) of output terminals of each of the plurality of driver circuits.

Thus, all claimed features are not found within Takeda.

Claim 6

In addition to the reasons provided hereinabove with respect to the rejection of claim 3, the rejection of claim 6 is respectfully traversed for at least the following reasons.

Within claim 6, said plurality of driver circuits 44 are driver ICs arranged in an outside of a transparent insulating substrate on which said display portion 10 is formed (specification at figure 6).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

However, a review of Takeda reveals that a “substrate” is not found therein. In addition, Takeda is silent as to the substrate being a “transparent insulating substrate”.

Thus, Takeda fails to expressly teach that a plurality of driver circuits are driver ICs arranged in an outside of a transparent insulating substrate on which the display portion is formed.

Moreover, inherent anticipation requires that the missing descriptive material is “necessarily present,” not merely probably or possibly present, in the prior art.” *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002).

U.S. Patent No. 6,788,380 to Melnik et al., which is provided as an attachment to this Appeal Brief within the Evidence Appendix, teaches the presence of silicon substrate 110 (Melnik at figure 1, column 1, lines 29-30) and silicon substrate 210 (Melnik at figure 2, column 2, lines 58-59). As shown in Melnik by the presence of silicon substrates 110 and 210, a transparent insulating substrate is not “necessarily present” within Takeda.

Because a “substrate” or a “transparent insulating substrate” is not found within Takeda, all features within claim 6 are not found within Takeda, and because a transparent insulating substrate is not inherent as shown by Melnik et al., the final rejection of at least claim 6 is improper and premature as a result.

In addition, rejected claim 6 provide that when a size of a frame portion adjacent to the display portion is specified, the number (n) of output terminals of each of the plurality of driver

circuits is determined on the basis of the specified frame size by the number of lines which can be wired into a wiring region of the frame portion, and when the total number of signal lines of the plurality of columns that is decided by a display system is set to N, the number of the driver circuits is set to N/n , the total number of signal lines being different than the number (n) of output terminals.

The Final Office Action cites elements q_1-q_N of Takeda as the plurality of driver circuits. While figure 1(A) of Takeda arguably depicts elements q_1-q_N at the output of shift register 31, the description found within Takeda fails to provide, with particularity, a written definition for elements q_1-q_N .

Instead, Takeda arguably teaches that “the column electrode drive circuit mainly comprises a shift register (31) which outputs a signal corresponding to the display pattern to each column electrode line” (figures 1(A),(B), column 4, lines 29-31), that “the signals required for sequential display are input to the gate circuit (37) from the shift register” (column 4, lines 59-61), and that “a shift register (31) that outputs signals to each column electrode line corresponding to the display pattern” (figure 5(A), column 6, lines 12-14). As shown above, Takeda arguably teaches elements q_1-q_N as “signals” while failing to disclose, teach or suggest elements q_1-q_N as “a plurality of driver circuits”.

Moreover, calculations provided within the Final Office Action arguably teach the total number of signal lines in Takeda as being the same as the number (n) of output terminals of each of the plurality of driver circuits. However, the claimed invention provides that the total number of signal lines is different than the number (n) of output terminals of each of the plurality of driver circuits.

Claims 25-29, 37, 43-47

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claim 25 includes the features of:

a display portion 10 (specification at figure 5), said display portion 10 having a plurality of gate lines 11, a plurality of signal lines 12 and a plurality of pixels 20 (specification at figure 3, page 9, lines 5-17),

a pixel 20 of said plurality of pixels 20 being located at an intersection of a gate line 11 of said plurality of gate lines 11 and a signal line 12 of said plurality of signal lines 12 (specification at figure 3); and

a plurality of driver circuits 14, 44 (specification at page 19, lines 5-6), said plurality of driver circuits 14, 44 including at least one general driver circuit and one remainder driver circuit (specification at figure 5),

each said at least one general driver circuit 14, 44 having a plurality of general driver circuit output terminals, a general driver circuit output terminal of said plurality of general driver circuit output terminals 14, 44 providing a signal potential to one of said plurality of signal lines (specification at page 19, lines 5-6),

said remainder driver circuit having a plurality of remainder driver circuit output terminals, a remainder driver circuit output terminal of said plurality of remainder driver circuit output terminals providing another signal potential to another of said plurality of signal lines (specification at figure 5),

the quantity of remainder driver circuit output terminals being defined as $(S - (OP * (DC-1)))$ (specification at figure 5, page 13, lines 18-21), "S" being the quantity of said plurality of signal lines 12 (specification at page 13, lines 10-13), "OP" being the quantity of general driver circuit output terminals, and "DC" being the quantity of said plurality of driver circuits 14 (specification at figure 5, page 13, lines 21-26),

said quantity of general driver circuit output terminals being different than said quantity of remainder driver circuit output terminals (specification at figure 5).

Claim 25 and the claims dependent thereon comprise a plurality of driver circuits including at least one general driver circuit wherein a general driver circuit output terminal provides a signal potential to one of the plurality of signal lines. The plurality of driver circuits further includes one remainder driver circuit wherein a remainder driver circuit output terminal provides another signal potential to another of the plurality of signal lines.

The Final Office Action contends that Takeda depicts row electrodes 11-a as a plurality of gate lines 11-a and column electrodes 11-b as a plurality of signal lines 11-b. Thus, the Final Office Action identifies the row electrodes 11-a as the plurality of gate lines 11-a, and not as the plurality of signal lines.

But while figure 1(A) of Takeda arguably depicts plurality of driver circuits having a column electrode drive circuit 13 (column 4, line 23) providing signals to column electrodes 11-b (column 3, lines 4-6), and figure 3(A) of Takeda arguably depicts a row electrode drive circuit 121,122 (column 4, lines 11-12) providing signals to row electrodes 11-a (column 3, lines 1-2), Takeda fails to disclose, teach or suggest both the column electrode drive circuit 13 and the row electrode drive circuit 121,122 providing signal potentials to column electrodes 11-b.

Thus, Takeda fails to disclose, teach or suggest column electrode drive circuit 13 and the row electrode drive circuit 121,122 as the plurality of driver circuits found within claim 25 and the claims dependent thereon since the claimed plurality of driver circuits provide a signal potential to the plurality of signal lines whereas the row electrode drive circuit 121,122 of Takeda provides signal potentials to the row electrodes 11-a and not to the column electrodes 11-b.

The Final Office Action cites elements q_1-q_N of Takeda as the plurality of driver circuits. While figure 1(A) of Takeda arguably depicts elements q_1-q_N at the output of shift register 31, the description found within Takeda fails to provide, with particularity, a written definition for elements q_1-q_N . Instead, Takeda arguably teaches that “the column electrode drive circuit mainly comprises a

shift register (31) which outputs a signal corresponding to the display pattern to each column electrode line" (figures 1(A),(B), column 4, lines 29-31), that "the signals required for sequential display are input to the gate circuit (37) from the shift register" (column 4, lines 59-61), and that "a shift register (31) that outputs signals to each column electrode line corresponding to the display pattern" (figure 5(A), column 6, lines 12-14). As shown above, Takeda arguably teaches elements q_1-q_N as "signals" while failing to disclose, teach or suggest elements q_1-q_N as "a plurality of driver circuits".

Also note that figure 1(A) of Takeda depicts buffer 36 as having only a single output Q_N , and not two (2) outputs as contended within the Office Action, and that a single signal q_N shown within figure 1(A) of Takeda corresponds only to a single output Q_N .

Moreover, claim 25 and the claims dependent thereon provide that the quantity of general driver circuit output terminals are different than the quantity of remainder driver circuit output terminals. But as shown within figure 1(A) there is the same quantity of outputs from each of the buffers 36, there is the same quantity of outputs from each of the analog switches 32, 34, and there is the same quantity of outputs from each of the gate circuits 37.

The Final Office Action further contends that each general driver circuit has a plurality of general driver circuit output terminals 36. But since each of the signals q_1-q_N of Takeda are uniquely associated with a buffer 36, this contention is inconsistent at least with the other contention regarding claim 25 made within the Final Office Action that elements q_1-q_N of Takeda are the plurality of driver circuits.

The Final Office Action asserts without provided any evidentiary support that there are two (2) remainder driver circuit output terminals, five (5) plurality of signal lines, three (3) general driver circuit output terminals, and two (2) plurality of driver circuits.

In response, this unsupported assertion amounts to nothing more than conclusions that are personal in nature because the cited prior art does not contain a sufficient teaching of how to obtain the desired result, or that the claimed result would be obtained if certain directions were

pursued. In this regard, the teachings, suggestions or incentives supporting the rejection must be clear and particular.

Claim 31

The rejection of this claim is traverse at least for the reasons provided hereinabove with respect to claim 25 and for the following reasons.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claim 31 includes a surplus connecting region that does not contribute to said display portion does not occur on the said display (specification page 16, lines 22-24).

However, Takeda fails to disclose, teach or suggest a surplus connecting region that does not contribute to the display portion which does not occur on the display. The Final Office Action cites elements 12, 13 and 15 of Takeda for this teaching. But in this regard, element 12 of Takeda contributes to the display portion as the row electrode drive circuit (Takeda at column 3, line 1), element 13 of Takeda contributes to the display portion as the column electrode drive circuit (Takeda at column 3, line 4), and element 15 of Takeda contributes to the display portion as the control circuit (Takeda at column 3, line 8).

Claim 48

The rejection of this claim is traverse at least for the reasons provided hereinabove with respect to claim 25 and for the following reasons.

Within claim 48, the plurality of driver circuits are driver integrated circuits arranged in an outside of a transparent insulating substrate on which said display portion is formed (specification at figure 5).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

However, a review of Takeda reveals that a “substrate” is not found therein. In addition, Takeda is silent as to the substrate being a “transparent insulating substrate”.

Thus, Takeda fails to expressly teach that a plurality of driver circuits are driver ICs arranged in an outside of a transparent insulating substrate on which the display portion is formed.

Moreover, inherent anticipation requires that the missing descriptive material is “necessarily present,” not merely probably or possibly present, in the prior art.” *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002).

U.S. Patent No. 6,788,380 to Melnik et al., which is provided as an attachment to this Appeal Brief within the Evidence Appendix, teaches the presence of silicon substrate 110 (Melnik at figure 1, column 1, lines 29-30) and silicon substrate 210 (Melnik at figure 2, column 2, lines 58-59). As shown in Melnik by the presence of silicon substrates 110 and 210, a transparent insulating substrate is not “necessarily present” within Takeda.

Because a “substrate” or a “transparent insulating substrate” is not found within Takeda, all features within claim 48 are not found within Takeda, and because a transparent insulating substrate is not inherent as shown by Melnik et al., the final rejection of at least claim 48 is improper and premature as a result.

Conclusion

The Office Action fails to show that each and every element as set forth in the claim is found, either expressly or inherently described, solely within Takeda, which is a specific requirement of an anticipation rejection made pursuant to 35 U.S.C. §102.

Accordingly, Takeda does not anticipate Applicant's invention. The claims are considered allowable for the same reasons discussed above, as well as for the additional features they recite.

Reversal of the Examiner's decision is respectfully requested.

A copy of the claims involved in the present appeal is attached hereto as the Claims Appendix.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: December 13, 2005

Respectfully submitted,

By 

Ronald P. Kananen

Registration No.: 24,104

RADER, FISHMAN & GRAUER PLLC

1233 20th Street, N.W.

Suite 501

Washington, DC 20036

(202) 955-3750

Attorney for Applicant

CLAIMS APPENDIX

1-2 (canceled).

3. (previously presented) A liquid crystal display comprising:

a display portion in which a plurality of pixels are two-dimensionally arranged at intersecting points of gate lines as many as a plurality of rows and signal lines as many as a plurality of columns which are wired in a matrix shape;

a plurality of driver circuits for applying a signal potential to each pixel in said display portion through the signal lines of said plurality of columns; and

time-divisional switches for time-divisionally sending a signal potential that is outputted from each of said plurality of driver circuits to the signal lines of said plurality of columns,

characterized in that a time-dividing number of said time-divisional switches is equal to 3,

the number of output terminals of each of said plurality of driver circuits is set to a measure of the total number of signal lines of said plurality of columns,

the number of output terminals of each of said plurality of driver circuits is set to a same number,

when a size of a frame portion adjacent to said display portion is specified, the number (n) of output terminals of each of said plurality of driver circuits is determined on the basis of said specified frame size by the number of lines which can be wired into a wiring region of said frame portion,

when the total number of signal lines of said plurality of columns that is decided by a display system is set to N, the number of said driver circuits is set to N/n , said total number of signal lines being different than said number (n) of output terminals.

4. (canceled).

5. (original) A display according to claim 3, characterized in that the number of output terminals of each of said plurality of driver circuits is set to a power of 2.

6. (original) A display according to claim 3, characterized in that said plurality of driver circuits are driver ICs arranged in an outside of a transparent insulating substrate on which said display portion is formed.

7. (original) A display according to claim 3, characterized by comprising:

a memory circuit for temporarily storing data to be written into said plurality of driver circuits; and

a control circuit for controlling said plurality of driver circuits so as to simultaneously write different data from said memory circuit.

8-10. (canceled).

11. (previously presented) A display according to claim 3, characterized in that a leading waveform and a trailing waveform of a signal output waveform of each of said plurality of driver circuits are symmetrical with respect to a time base.

12. (canceled).

13. (previously presented) A display according to claim 3, characterized in that a period of time which is selected by said time-divisional switches is equal to or shorter than 1/3 of a horizontal scanning period.

14. (original) A display according to claim 13, characterized in that a leading time and a trailing time of each of said plurality of driver circuits are equal to or shorter than the period of time which is selected by said time-divisional switches.

15. (previously presented) A display according to claim 3, characterized in that a blanking period which is caused for the period of time, selected by said time-divisional switches is equal to or shorter than (a horizontal scanning period – the period of time selected by the time-divisional switches x 3) / 3.

16. (previously presented) A display according to claim 15, characterized in that said plurality of driver circuits have a function to stop the operation of an output circuit of said plurality of driver circuits for said blanking period.

17. (previously presented) A display according to claim 3, characterized in that said plurality of driver circuits generate a signal potential so as to correct curves of voltage-transmittance characteristics of R (red), G (green), and G (blue) by diving to said time-divisional switches.

18. (previously presented) A display according to claim 3, characterized in that in a 1H (H denotes a horizontal scanning period) inversion driving or a 1H common inversion driving, the signal line which is selected first by said time-divisional switches is a line of blue, the signal line which is selected at the second time is a line of green, and the signal line which is selected at the third time is a line of red.

19. (previously presented) A display according to claim 3, characterized in that in a dot inversion driving, the signal line which is selected first by said time-divisional switches is a line of red, the signal line which is selected at the second time is a line of green, and the signal line which is selected at the third time is a line of blue.

20. (previously presented) A display according to claim 3, characterized in that time-division of said time-division switches distribute signals to R (red), G (green), and G (blue) constituting one pixel.

21-22. (canceled).

23. (previously presented) A display according to claim 3, characterized in that a surplus connecting region that does not contribute to said display portion does not occur on the said display.

24. (previously presented) A display according to claim 3, characterized in that a driver circuit of said plurality of driver circuits is separate and distinct from another driver circuit of said plurality of driver circuits.

25. (previously presented) A liquid crystal display comprising:

a display portion, said display portion having a plurality of gate lines, a plurality of signal lines and a plurality of pixels,

a pixel of said plurality of pixels being located at an intersection of a gate line of said plurality of gate lines and a signal line of said plurality of signal lines; and

a plurality of driver circuits, said plurality of driver circuits including at least one general driver circuit and one remainder driver circuit,

each said at least one general driver circuit having a plurality of general driver circuit output terminals, a general driver circuit output terminal of said plurality of general driver circuit output terminals providing a signal potential to one of said plurality of signal lines,

said remainder driver circuit having a plurality of remainder driver circuit output terminals, a remainder driver circuit output terminal of said plurality of remainder driver circuit output terminals providing another signal potential to another of said plurality of signal lines,

the quantity of remainder driver circuit output terminals being defined as $(S - (OP * (DC-1)))$, "S" being the quantity of said plurality of signal lines, "OP" being the quantity of general driver circuit output terminals, and "DC" being the quantity of said plurality of driver circuits,

said quantity of general driver circuit output terminals being different than said quantity of remainder driver circuit output terminals.

26. (previously presented) A display according to claim 25, wherein each driver circuit of said plurality of driver circuits is separate and distinct from another driver circuit of said plurality of driver circuits.

27. (previously presented) A display according to claim 25, wherein said plurality of pixels is arranged in a two-dimensional matrix shape.

28. (previously presented) A display according to claim 25, wherein said pixel of said plurality of pixels includes a transistor, a gate electrode of said transistor being electrically connected to said gate line, a source/drain of said transistor being electrically connected to said signal line.

29. (previously presented) A display according to claim 25, wherein said plurality of gate lines is a plurality of rows and said plurality of signal lines is a plurality of columns.

30. (canceled).

31. (previously presented) A display according to claim 25, wherein a surplus connecting region that does not contribute to said display portion does not occur on the said display.

32-36. (canceled).

37. (previously presented) A display according to claim 25, wherein an output terminal of said plurality of driver circuits is electrically connected to an input terminal of a time-divisional switch, said time-divisional switch providing a de-multiplexed signal potential to said signal line, said de-multiplexed signal potential being a signal potential for one of a plurality of primary colors that is time-divided from another signal potential for another of said plurality of primary colors and supplied to said signal line.

38-42. (canceled).

43. (previously presented) A display according to claim 37, wherein said plurality of primary colors is a first primary color, a second primary color and a third primary color.

44. (previously presented) A display according to claim 25, wherein said quantity of general driver circuit output terminals is greater than said quantity of remainder driver circuit output terminals.

45. (previously presented) A display according to claim 25, wherein the sum total of general driver circuit output terminals and said remainder driver circuit output terminals is equal to said plurality of signal lines.

46. (previously presented) A display according to claim 25, wherein said plurality of driver circuits include more than one said general driver circuit.

47. (previously presented) A display according to claim 46, wherein each said general driver circuit has an equal number of general driver circuit output terminals.

48. (previously presented) A display according to claim 25, wherein said plurality of driver circuits are driver integrated circuits arranged in an outside of a transparent insulating substrate on which said display portion is formed.

RELATED PROCEEDINGS APPENDIX

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

EVIDENCE APPENDIX

1. U.S. Patent No. 6,788,380 to Melnik et al..
2. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987).
3. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002).

There is no other evidence which will directly affect or have a bearing on the Board's decision in this appeal.

Verdegaal Brothers Inc. v. Union Oil Company of California (CA FC) 2 USPQ2d 1051

Verdegaal Brothers Inc. v. Union Oil Company of California

U.S. Court of Appeals Federal Circuit
2 USPQ2d 1051

Decided March 12, 1987
No. 86-1258

Headnotes

PATENTS

1. Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)

Federal district court erred in denying patent infringement defendant's motion for judgment n.o.v., in view of evidence demonstrating that claims for making urea-sulfuric acid fertilizer, including claims that reaction be conducted in "heat sink" of recycled fertilizer to prevent high temperature buildup, were anticipated by prior art patent that specifically detailed process for making such urea-sulfuric acid products and that explicitly taught that base or "heel" of recycled

fertilizer can be used to make more of product, even if patentee of prior art did not recognize that heel functioned as heat sink, since heat sink property was inherently possessed by heel.

Particular patents -- Fertilizers

4,310,343, Verdegaal and Verdegaal, Process for Making Liquid Fertilizer, holding of validity and infringement reversed.

Case History and Disposition:

Page 1051

Appeal from District Court for the Eastern District of California, Coyle, J.

Action by Verdegaal Brothers Inc., William Verdegaal, and George Verdegaal, against Union Oil Company of California, and Brea Agricultural Services Inc., for patent infringement. From decision denying defendants' motion for judgment notwithstanding the verdict, defendants appeal. Reversed.

Attorneys:

Andrew J. Belansky of Christie, Parker & Hale (David A. Dillard, with him on the brief), all of Pasadena, Calif., for appellants.

John P. Sutton of Limbach, Limbach & Sutton (Michael E. Dergosits, with him on the brief), all of San Francisco, Calif., for appellees.

Judge:

Before Markey, Chief Judge, and Davis and Nies, Circuit Judges.

Opinion Text

Opinion By:

Nies, Circuit Judge.

Union Oil Company of California and Brea Agricultural Services, Inc. (collectively Union Oil) appeal from a judgment of the United States District Court for the Eastern District of California, No. CV-F-83-68 REC, entered on a jury verdict which declared U.S. Patent No. 4,310,343 ('343), owned by Verdegaal Brothers, Inc., "valid" and claims 1, 2, and 4 thereof infringed by Union Oil. Union Oil's motion for judgment notwithstanding the verdict (JNOV) was denied. We reverse.

1

BACKGROUND

The General Technology

The patent in suit relates to a process for making certain known urea-sulfuric acid liquid fertilizer products. These products are made by reacting water, urea (a nitrogen-containing chemical), and sulfuric acid (a sulfur-containing chemical) in particular proportions. The nomenclature commonly used by the fertilizer industry refers to these fertilizer products numerically according to the percentages by weight of four fertilizer constituents in the following order: nitrogen, phosphorous, potassium, and sulfur. Thus, for example, a fertilizer containing 28% nitrogen, no phosphorous or potassium, and 9% sulfur is expressed numerically as 28-0-0-9.

The Process of the '343 Patent

The process disclosed in the '343 patent involves the chemical reaction between urea

and sulfuric acid, which is referred to as an exothermic reaction because it gives off heat. To prevent high temperature buildup, the reaction is conducted in the presence of a nonreactive, nutritive heat sink which will absorb the heat of reaction. Specifically, a previously-made batch of liquid fertilizer -- known as a "heel" -- can serve as the heat sink to which more reactants are added. Claims 1 and 2 are representative:

1. In a process for making a concentrated liquid fertilizer by reacting sulfuric acid and urea, to form an end product, the improvement comprising:
 - a. providing a non-reactive, nutritive heat sink, capable of dissipating the heat of urea and sulfuric acid, in an amount at least 5% of the end product,
 - b. adding water to the heat sink in an amount not greater than 15% of the end product,
 - c. adding urea to the mixture in an amount of at least 50% of the total weight of the end product,
 - d. adding concentrated sulfuric acid in an amount equal to at least 10% of the total weight of the end product.
2. The process of claim 1 wherein the heat sink is recycled liquid fertilizer.

Procedural History

Verdegaal brought suit against Union Oil in the United States District Court for the Eastern District of California charging that certain processes employed by Union Oil for making liquid fertilizer products infringed all claims of its '343 patent. Union Oil defended on the grounds of noninfringement and patent invalidity under 35 U.S.C. §§102, 103. The action was tried before a jury which returned a verdict consisting of answers to five questions. Pertinent here are its answers that the '343 patent was "valid" over the prior art, and that certain of Union Oil's processes infringed claims 1, 2, and 4 of the patent. None were found to infringe claims 3 or 5. Based on the jury's verdict, the district court entered judgment in favor of Verdegaal.

Having unsuccessfully moved for a directed verdict under Fed. R. Civ. P. 50(a), Union Oil timely filed a motion under Rule 50(b) for JNOV seeking a judgment that the claims of the '343 patent were invalid under sections 102 and 103. The district court denied the motion without opinion.

II

ISSUE PRESENTED

Did the district court err in denying Union Oil's motion for JNOV with respect to the validity of claims 1, 2, and 4 of the '343 patent?

III

Standard of Review

When considering a motion for JNOV a district court must: (1) consider all of the evidence; (2) in a light most favorable to the non-moving party; (3) drawing all reasonable inferences favorable to that party; (4) without determining credibility of the witnesses; and (5) without substituting its choice for that of the jury's in deciding between conflicting elements of the evidence. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 936 (Fed. Cir.), *cert. denied*, 469 U.S. 871 [224 USPQ 520] (1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed. Cir. 1983). A district court should grant a motion for JNOV only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. *Railroad Dynamics*, 727 F.2d at 1513, 220 USPQ at 936; *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

To reverse the district court's denial of the motion for JNOV, Union Oil must convince us that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury in forming its verdict. See *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), *cert. denied*, 469 U.S. 857 [225 USPQ 792] (1984). *Railroad Dynamics*, 727 F.2d at 1512, 220 USPQ at 936. Substantial evidence is more than just a mere scintilla; it is such relevant evidence from the record taken as a whole as a reasonable mind might accept as adequate to support the finding under review. *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938); *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *SSIH Equip. S.A. v. U.S. Int'l Trade Comm'n*, 718 F.2d 365, 371 n.10, 218 USPQ 678, 684 n.10 (Fed. Cir. 1983). A trial court's denial of a motion for JNOV must stand unless the evidence is of such quality and weight that reasonable and fair-minded persons in the exercise of impartial judgment could not reasonably return the jury's verdict. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed. Cir. 1984).

Our precedent holds that the presumption of validity afforded a U.S. patent by 35

Page 1053

U.S.C. § 282 requires that the party challenging validity prove the facts establishing invalidity by clear and convincing evidence. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 770 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [224 USPQ 520] (1984). Thus, the precise question to be resolved in this case is whether Union Oil's evidence is so clear and convincing that reasonable jurors could only conclude that the claims in issue were invalid. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 935.

Anticipation

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [224 USPQ 520] (1984). Union Oil asserts that the subject claims of the '343 patent are anticipated under 35 U.S.C. § 102(e) 1 by the teachings found in the original application for U.S. Patent No. 4,315,783 to Stoller, which the jury was instructed was prior art.

From the jury's verdict of patent validity, we must presume that the jury concluded that Union Oil failed to prove by clear and convincing evidence that claims 1, 2, and 4 were anticipated by the Stoller patent. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Under the instructions of this case, this conclusion could have been reached only if the jury found that the Stoller patent did not disclose each and every element of the claimed inventions. Having reviewed the evidence, we conclude that substantial evidence does not support the jury's verdict, and, therefore, Union Oil's motion for JNOV on the grounds that the claims were anticipated should have been granted.

The Stoller patent discloses processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers. Example 8 of Stoller specifically details a process for making 30-0-0-10 urea-sulfuric acid products. There is no dispute that Example 8 meets elements b, c, and d of

claim 1, specifically the steps of adding water in an amount not greater than 15% of the product, urea in an amount of at least 50% of the product, and concentrated sulfuric acid in an amount of at least 10% of the product. Verdegaal disputes that Stoller teaches element a, the step of claim 1 of "providing a non-reactive, nutritive heat sink." As set forth in claim 2, the heat sink is recycled fertilizer. 2

The Stoller specification, beginning at column 7, line 30, discloses:

Once a batch of liquid product has been made, it can be used as a base for further manufacture. This is done by placing the liquid in a stirred vessel of appropriate size, adding urea in sufficient quantity to double the size of the finished batch, adding any water required for the formulation, and slowly adding the sulfuric acid while stirring. Leaving a heel of liquid in the vessel permits further manufacture to be conducted in a stirred fluid mass.

This portion of the Stoller specification explicitly teaches that urea and sulfuric acid can be added to recycled fertilizer, i.e., a heel or base of previously-made product. Dr. Young, Union Oil's expert, so testified. Verdegaal presented no evidence to the contrary.

Verdegaal first argues that Stoller does not anticipate because in Stoller's method sulfuric acid is added *slowly*, whereas the claimed process allows for rapid addition. However, there is no limitation in the subject claims with respect to the rate at which sulfuric acid is added, and, therefore, it is inappropriate for Verdegaal to rely on that distinction. *See SSIH*, 718 F.2d at 378, 218 USPQ at 689. It must be assumed that slow addition would not change the claimed process in any respect including the function of the recycled material as a heat sink.

Verdegaal next argues that the testimony of Union Oil's experts with respect to what

Page 1054

Stoller teaches could well have been discounted by the jury for bias. Discarding that testimony does not eliminate the reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process may be used to make more of the product.

[1] Verdegaal raises several variations of an argument, all of which focus on the failure of Stoller to explicitly identify the heel in his process as a "heat sink." In essence, Verdegaal maintains that because Stoller did not recognize the "inventive concept" that the heel functioned as a heat sink, Stoller's process cannot anticipate. This argument is wrong as a matter of fact and law. Verdegaal's own expert, Dr. Bahme, admitted that Stoller discussed the problem of high

temperature caused by the exothermic reaction, and that the heel could function as a heat sink. 3 In any event, Union Oil's burden of proof was limited to establishing that Stoller disclosed the same process. It did not have the additional burden of proving that Stoller recognized the heat sink capabilities of using a heel. Even assuming Stoller did not recognize that the heel of his process functioned as a heat sink, that property was inherently possessed by the heel in his disclosed process, and, thus, his process anticipates the claimed invention. *See In re Oelrich* , 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Swinehart* , 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971). The pertinent issues are whether Stoller discloses the process of adding urea and sulfuric acid to a previously-made batch of product, and whether that base would in fact act as a heat sink. On the entirety of the record, these issues could only be resolved in the affirmative.

On appeal Verdegaal improperly attempts to attack the status of the Stoller patent as prior art, stating in its brief:

Verdegaal also introduced evidence at trial that the Stoller patent is not prior art under 35 U.S.C. §§ 102(e)/103. Professor Chisum testified that the Stoller patent, in his opinion, was not prior art. ... This conclusion finds support in *In re Wertheim* , 646 F.2d 527 [209 USPQ 554] (CCPA 1981), and 1 Chisum on Patents §3.07[3].

Appellee Brief at 27 (record cite omitted). Seldom have we encountered such blatant distortion of the record. A question about the status of the Stoller disclosure as prior art did arise at trial. Union Oil asserted that, even though the Stoller patent issued after the '343 patent, Stoller was prior art under section 102(e) as of its filing date which was well before the filing date of Verdegaal's application. Professor Chisum never testified that the Stoller patent was *not* prior art, but rather, stated that *he did not know* whether it was prior art. An excerpt from the pertinent testimony leaves no doubt on this point:

Q. (Mr. Sutton): And do you know whether the Stoller patent is prior art to the application of the Verdegaal patent?

A. (Prof. Chisum): I don't know that it is, no.

We find it even more incredible that Verdegaal would attempt to raise an issue with respect to the status of the Stoller patent given that the case was submitted to the jury with the instruction that the original Stoller patent application was prior art. 4 Verdegaal made no objection to that instruction below, and in its appeal briefs, the instruction is cavalierly ignored.

In sum, Verdegaal is precluded from arguing that the Stoller patent should not be considered

prior art. See Fed. R. Civ. P. 51; *Weinar v. Rollform Inc.*, 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed. Cir. 1984), *cert. denied*, 105 S.Ct. 1844 (1985); *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 615, 222 USPQ 654, 662 (Fed. Cir.), *cert. denied*, 469 U.S. 1038 (1984). 5

After considering the record taken as a whole, we are convinced that Union Oil established anticipation of claims 1, 2, and 4 by clear and convincing evidence and that no reasonable juror could find otherwise. Consequently, the jury's verdict on validity is unsupported by substantial evidence and

Page 1055

cannot stand. Thus, the district court's denial of Union Oil's motion for JNOV must be reversed.

Conclusion

Because the issues discussed above are dispositive of this case, we do not find it necessary to reach the other issues raised by Union Oil. 6 In accordance with this opinion, we reverse the portion of the judgment entered on the jury verdict upholding claims 1, 2, and 4 of the '343 patent as valid under section 102(e) and infringed.

REVERSED

Footnotes

Footnote 1. Section 102(e) provides:
A person shall be entitled to a patent unless--

....
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international

application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent

Footnote 2. Claim 4 is written in terms of approximate percentages of all reactants by weight of the end product. No argument is made that the process of claim 4 would result in a fertilizer product any different from that disclosed by Example 8 of Stoller.

Footnote 3. There is no dispute that the percentage of heel described in Stoller meets the percentage of heat sink required by the claims.

Footnote 4. The jury instruction read:

Stoller filed two patent applications -- an original application on October 30th, 1978, and a second on February 7th, 1980. Under the patent laws, the claims of the 343 patent are invalid if you find that the original application (Exhibit BL) anticipates the process claimed in the 343 patent.

Footnote 5. Union Oil also argues that Verdegaal's counsel misled the jury by its closing rebuttal argument:

ut I think it's important to keep in mind that [Stoller] couldn't have been a prior patent because it issued a month after the Verdegaal patent had issued.

We disapprove of Verdegaal's tactic which would form the basis for a grant of a motion for a new trial but for our conclusion that outright reversal of the ruling on the motion for JNOV is in order.

Footnote 6. It should not be inferred that all of these issues were properly before us. Union Oil appears to assume that on appeal it may dispute the resolution of any *issue* which is denominated an "issue of law" even though it was not raised in its motion for JNOV. This is incorrect. *See Railroad Dynamics* , 727 F.2d at 1511, 220 USPQ at 934.

- End of Case -

Verdegaal Brothers Inc. v. Union Oil Company of California (CA FC) 2 USPQ2d 1051

Verdegaal Brothers Inc. v. Union Oil Company of California

U.S. Court of Appeals Federal Circuit
2 USPQ2d 1051

Decided March 12, 1987
No. 86-1258

Headnotes

PATENTS

1. Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)

Federal district court erred in denying patent infringement defendant's motion for judgment n.o.v., in view of evidence demonstrating that claims for making urea-sulfuric acid fertilizer, including claims that reaction be conducted in "heat sink" of recycled fertilizer to prevent high temperature buildup, were anticipated by prior art patent that specifically detailed process for making such urea-sulfuric acid products and that explicitly taught that base or "heel" of recycled

fertilizer can be used to make more of product, even if patentee of prior art did not recognize that heel functioned as heat sink, since heat sink property was inherently possessed by heel.

Particular patents -- Fertilizers

4,310,343, Verdegaal and Verdegaal, Process for Making Liquid Fertilizer, holding of validity and infringement reversed.

Case History and Disposition:

Page 1051

Appeal from District Court for the Eastern District of California, Coyle, J.

Action by Verdegaal Brothers Inc., William Verdegaal, and George Verdegaal, against Union Oil Company of California, and Brea Agricultural Services Inc., for patent infringement. From decision denying defendants' motion for judgment notwithstanding the verdict, defendants appeal. Reversed.

Attorneys:

Andrew J. Belansky of Christie, Parker & Hale (David A. Dillard, with him on the brief), all of Pasadena, Calif., for appellants.

John P. Sutton of Limbach, Limbach & Sutton (Michael E. Dergosits, with him on the brief), all of San Francisco, Calif., for appellees.

Judge:

Before Markey, Chief Judge, and Davis and Nies, Circuit Judges.

Opinion Text

Opinion By:

Nies, Circuit Judge.

Union Oil Company of California and Brea Agricultural Services, Inc. (collectively Union Oil) appeal from a judgment of the United States District Court for the Eastern District of California, No. CV-F-83-68 REC, entered on a jury verdict which declared U.S. Patent No. 4,310,343 ('343), owned by Verdegaal Brothers, Inc., "valid" and claims 1, 2, and 4 thereof infringed by Union Oil. Union Oil's motion for judgment notwithstanding the verdict (JNOV) was denied. We reverse.

BACKGROUND

The General Technology

The patent in suit relates to a process for making certain known urea-sulfuric acid liquid fertilizer products. These products are made by reacting water, urea (a nitrogen-containing chemical), and sulfuric acid (a sulfur-containing chemical) in particular proportions. The nomenclature commonly used by the fertilizer industry refers to these fertilizer products numerically according to the percentages by weight of four fertilizer constituents in the following order: nitrogen, phosphorous, potassium, and sulfur. Thus, for example, a fertilizer containing 28% nitrogen, no phosphorous or potassium, and 9% sulfur is expressed numerically as 28-0-0-9.

The Process of the '343 Patent

The process disclosed in the '343 patent involves the chemical reaction between urea

and sulfuric acid, which is referred to as an exothermic reaction because it gives off heat. To prevent high temperature buildup, the reaction is conducted in the presence of a nonreactive, nutritive heat sink which will absorb the heat of reaction. Specifically, a previously-made batch of liquid fertilizer -- known as a "heel" -- can serve as the heat sink to which more reactants are added. Claims 1 and 2 are representative:

1. In a process for making a concentrated liquid fertilizer by reacting sulfuric acid and urea, to form an end product, the improvement comprising:
 - a. providing a non-reactive, nutritive heat sink, capable of dissipating the heat of urea and sulfuric acid, in an amount at least 5% of the end product,
 - b. adding water to the heat sink in an amount not greater than 15% of the end product,
 - c. adding urea to the mixture in an amount of at least 50% of the total weight of the end product,
 - d. adding concentrated sulfuric acid in an amount equal to at least 10% of the total weight of the end product.
2. The process of claim 1 wherein the heat sink is recycled liquid fertilizer.

Procedural History

Verdegaal brought suit against Union Oil in the United States District Court for the Eastern District of California charging that certain processes employed by Union Oil for making liquid fertilizer products infringed all claims of its '343 patent. Union Oil defended on the grounds of noninfringement and patent invalidity under 35 U.S.C. §§102, 103. The action was tried before a jury which returned a verdict consisting of answers to five questions. Pertinent here are its answers that the '343 patent was "valid" over the prior art, and that certain of Union Oil's processes infringed claims 1, 2, and 4 of the patent. None were found to infringe claims 3 or 5. Based on the jury's verdict, the district court entered judgment in favor of Verdegaal.

Having unsuccessfully moved for a directed verdict under Fed. R. Civ. P. 50(a), Union Oil timely filed a motion under Rule 50(b) for JNOV seeking a judgment that the claims of the '343 patent were invalid under sections 102 and 103. The district court denied the motion without opinion.

II

ISSUE PRESENTED

Did the district court err in denying Union Oil's motion for JNOV with respect to the validity of claims 1, 2, and 4 of the '343 patent?

III

Standard of Review

When considering a motion for JNOV a district court must: (1) consider all of the evidence; (2) in a light most favorable to the non-moving party; (3) drawing all reasonable inferences favorable to that party; (4) without determining credibility of the witnesses; and (5) without substituting its choice for that of the jury's in deciding between conflicting elements of the evidence. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 936 (Fed. Cir.), cert. denied , 469 U.S. 871 [224 USPQ 520] (1984); *Connell v. Sears, Roebuck & Co.* , 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed. Cir. 1983). A district court should grant a motion for JNOV only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. *Railroad Dynamics* , 727 F.2d at 1513, 220 USPQ at 936; *Connell* , 722 F.2d at 1546, 220 USPQ at 197.

To reverse the district court's denial of the motion for JNOV, Union Oil must convince us that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury in forming its verdict. See *Perkin-Elmer Corp. v. Computervision Corp.* , 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), cert. denied , 469 U.S. 857 [225 USPQ 792] (1984). *Railroad Dynamics* , 727 F.2d at 1512, 220 USPQ at 936. Substantial evidence is more than just a mere scintilla; it is such relevant evidence from the record taken as a whole as a reasonable mind might accept as adequate to support the finding under review. *Consolidated Edison Co. v. NLRB* , 305 U.S. 197, 229 (1938); *Perkin-Elmer* , 732 F.2d at 893, 221 USPQ at 673; *SSIH Equip. S.A. v. U.S. Int'l Trade Comm'n* , 718 F.2d 365, 371 n.10, 218 USPQ 678 , 684 n.10 (Fed. Cir. 1983). A trial court's denial of a motion for JNOV must stand unless the evidence is of such quality and weight that reasonable and fair-minded persons in the exercise of impartial judgment could not reasonably return the jury's verdict. *Envirotech Corp. v. Al George, Inc.* , 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed. Cir. 1984).

Our precedent holds that the presumption of validity afforded a U.S. patent by 35

Page 1053

U.S.C. § 282 requires that the party challenging validity prove the facts establishing invalidity by clear and convincing evidence. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 770 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [224 USPQ 520] (1984). Thus, the precise question to be resolved in this case is whether Union Oil's evidence is so clear and convincing that reasonable jurors could only conclude that the claims in issue were invalid. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 935.

Anticipation

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [224 USPQ 520] (1984). Union Oil asserts that the subject claims of the '343 patent are anticipated under 35 U.S.C. § 102(e) 1 by the teachings found in the original application for U.S. Patent No. 4,315,783 to Stoller, which the jury was instructed was prior art.

From the jury's verdict of patent validity, we must presume that the jury concluded that Union Oil failed to prove by clear and convincing evidence that claims 1, 2, and 4 were anticipated by the Stoller patent. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Under the instructions of this case, this conclusion could have been reached only if the jury found that the Stoller patent did not disclose each and every element of the claimed inventions. Having reviewed the evidence, we conclude that substantial evidence does not support the jury's verdict, and, therefore, Union Oil's motion for JNOV on the grounds that the claims were anticipated should have been granted.

The Stoller patent discloses processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers. Example 8 of Stoller specifically details a process for making 30-0-0-10 urea-sulfuric acid products. There is no dispute that Example 8 meets elements b, c, and d of

claim 1, specifically the steps of adding water in an amount not greater than 15% of the product, urea in an amount of at least 50% of the product, and concentrated sulfuric acid in an amount of at least 10% of the product. Verdegaal disputes that Stoller teaches element a, the step of claim 1 of "providing a non-reactive, nutritive heat sink." As set forth in claim 2, the heat sink is recycled fertilizer. 2

The Stoller specification, beginning at column 7, line 30, discloses:

Once a batch of liquid product has been made, it can be used as a base for further manufacture. This is done by placing the liquid in a stirred vessel of appropriate size, adding urea in sufficient quantity to double the size of the finished batch, adding any water required for the formulation, and slowly adding the sulfuric acid while stirring. Leaving a heel of liquid in the vessel permits further manufacture to be conducted in a stirred fluid mass.

This portion of the Stoller specification explicitly teaches that urea and sulfuric acid can be added to recycled fertilizer, i.e., a heel or base of previously-made product. Dr. Young, Union Oil's expert, so testified. Verdegaal presented no evidence to the contrary.

Verdegaal first argues that Stoller does not anticipate because in Stoller's method sulfuric acid is added *slowly*, whereas the claimed process allows for rapid addition. However, there is no limitation in the subject claims with respect to the rate at which sulfuric acid is added, and, therefore, it is inappropriate for Verdegaal to rely on that distinction. *See SSIH*, 718 F.2d at 378, 218 USPQ at 689. It must be assumed that slow addition would not change the claimed process in any respect including the function of the recycled material as a heat sink.

Verdegaal next argues that the testimony of Union Oil's experts with respect to what

Page 1054

Stoller teaches could well have been discounted by the jury for bias. Discarding that testimony does not eliminate the reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process may be used to make more of the product.

[1] Verdegaal raises several variations of an argument, all of which focus on the failure of Stoller to explicitly identify the heel in his process as a "heat sink." In essence, Verdegaal maintains that because Stoller did not recognize the "inventive concept" that the heel functioned as a heat sink, Stoller's process cannot anticipate. This argument is wrong as a matter of fact and law. Verdegaal's own expert, Dr. Bahme, admitted that Stoller discussed the problem of high

temperature caused by the exothermic reaction, and that the heel could function as a heat sink. 3 In any event, Union Oil's burden of proof was limited to establishing that Stoller disclosed the same process. It did not have the additional burden of proving that Stoller recognized the heat sink capabilities of using a heel. Even assuming Stoller did not recognize that the heel of his process functioned as a heat sink, that property was inherently possessed by the heel in his disclosed process, and, thus, his process anticipates the claimed invention. *See In re Oelrich* , 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Swinehart* , 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971). The pertinent issues are whether Stoller discloses the process of adding urea and sulfuric acid to a previously-made batch of product, and whether that base would in fact act as a heat sink. On the entirety of the record, these issues could only be resolved in the affirmative.

On appeal Verdegaal improperly attempts to attack the status of the Stoller patent as prior art, stating in its brief:

Verdegaal also introduced evidence at trial that the Stoller patent is not prior art under 35 U.S.C. §§ 102(e)/103. Professor Chisum testified that the Stoller patent, in his opinion, was not prior art. ... This conclusion finds support in *In re Wertheim* , 646 F.2d 527 [209 USPQ 554] (CCPA 1981), and 1 Chisum on Patents §3.07[3].

Appellee Brief at 27 (record cite omitted). Seldom have we encountered such blatant distortion of the record. A question about the status of the Stoller disclosure as prior art did arise at trial. Union Oil asserted that, even though the Stoller patent issued after the '343 patent, Stoller was prior art under section 102(e) as of its filing date which was well before the filing date of Verdegaal's application. Professor Chisum never testified that the Stoller patent was *not* prior art, but rather, stated that *he did not know* whether it was prior art. An excerpt from the pertinent testimony leaves no doubt on this point:

Q. (Mr. Sutton): And do you know whether the Stoller patent is prior art to the application of the Verdegaal patent?

A. (Prof. Chisum): I don't know that it is, no.

We find it even more incredible that Verdegaal would attempt to raise an issue with respect to the status of the Stoller patent given that the case was submitted to the jury with the instruction that the original Stoller patent application was prior art. 4 Verdegaal made no objection to that instruction below, and in its appeal briefs, the instruction is cavalierly ignored.

In sum, Verdegaal is precluded from arguing that the Stoller patent should not be considered

prior art. See Fed. R. Civ. P. 51; *Weinar v. Rollform Inc.*, 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed. Cir. 1984), *cert. denied*, 105 S.Ct. 1844 (1985); *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 615, 222 USPQ 654, 662 (Fed. Cir.), *cert. denied*, 469 U.S. 1038 (1984). 5

After considering the record taken as a whole, we are convinced that Union Oil established anticipation of claims 1, 2, and 4 by clear and convincing evidence and that no reasonable juror could find otherwise. Consequently, the jury's verdict on validity is unsupported by substantial evidence and

Page 1055

cannot stand. Thus, the district court's denial of Union Oil's motion for JNOV must be reversed.

Conclusion

Because the issues discussed above are dispositive of this case, we do not find it necessary to reach the other issues raised by Union Oil. 6 In accordance with this opinion, we reverse the portion of the judgment entered on the jury verdict upholding claims 1, 2, and 4 of the '343 patent as valid under section 102(e) and infringed.

REVERSED

Footnotes

Footnote 1. Section 102(e) provides:

A person shall be entitled to a patent unless--

....
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international

application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent

Footnote 2. Claim 4 is written in terms of approximate percentages of all reactants by weight of the end product. No argument is made that the process of claim 4 would result in a fertilizer product any different from that disclosed by Example 8 of Stoller.

Footnote 3. There is no dispute that the percentage of heel described in Stoller meets the percentage of heat sink required by the claims.

Footnote 4. The jury instruction read:

Stoller filed two patent applications -- an original application on October 30th, 1978, and a second on February 7th, 1980. Under the patent laws, the claims of the 343 patent are invalid if you find that the original application (Exhibit BL) anticipates the process claimed in the 343 patent.

Footnote 5. Union Oil also argues that Verdegaal's counsel misled the jury by its closing rebuttal argument:

ut I think it's important to keep in mind that [Stoller] couldn't have been a prior patent because it issued a month after the Verdegaal patent had issued.

We disapprove of Verdegaal's tactic which would form the basis for a grant of a motion for a new trial but for our conclusion that outright reversal of the ruling on the motion for JNOV is in order.

Footnote 6. It should not be inferred that all of these issues were properly before us. Union Oil appears to assume that on appeal it may dispute the resolution of any *issue* which is denominated an "issue of law" even though it was not raised in its motion for JNOV. This is incorrect. *See Railroad Dynamics* , 727 F.2d at 1511, 220 USPQ at 934.

- End of Case -

Trintec Industries Inc. v. Top-U.S.A. Corp., 63 USPQ2d 1597 (CA FC 2002)

63 USPQ2D 1597

Trintec Industries Inc. v. Top-U.S.A. Corp.

U.S. Court of Appeals Federal Circuit

No. 01-1568

Decided July 2, 2002

Headnotes

PATENTS

[1] Patentability/Validity — Anticipation — Identity of elements (§115.0704)

Patent construction — Claims — Defining terms (§125.1305)

Claims of patent for method of making multicolor faces for watches and other instruments using computer and color photocopier are not inherently anticipated by catalogue that advertises

method of making customized watch faces using color printer, since, as matter of correct claim construction, "color photocopier" requires ability to both print and photocopy subject matter with color, since difference between photocopier and printer may be minimal and obvious to those of skill in art, but obviousness is not inherent anticipation, and since catalogue therefore does not disclose, either expressly or inherently, use of color photocopier.

[2] Patentability/Validity — Anticipation — Identity of elements (§115.0704)

Patent construction — Claims — Broad or narrow (§125.1303)

Claim of patent for method of making multicolor faces for watches and other instruments, which includes step of "creating" instrument face "in the computer" in electronic format, is not inherently anticipated by catalogue that advertises various methods of making customized watch faces using color printer, since claim step in question cannot be broadly interpreted to require "creating or providing" instrument face in computer, since "creating" requires substantive addition or modification of artwork in computer, and since printing methods advertised in catalogue,

Page 1598

in which computer serves merely as conduit for printing, disclose nothing about creating artwork in computer.

Particular Patents

Particular patents — General and mechanical — Instrument faces

5,818,717, Nunes, automated small volume production of instrument faces, summary judgment of invalidity vacated.

Case History and Disposition

Appeal from the U.S. District Court for the Southern District of Ohio, Kinneary, S.J.

Action by Trintec Industries Inc. against Top-U.S.A. Corp. for patent infringement. Plaintiff appeals from summary judgment of patent invalidity. Vacated and remanded.

Attorneys:

Robert A. Vanderhye, of Nixon & Vanderhye, Arlington, Va., for plaintiff-appellant.

David P. Shoumlin, David W. Costello, and Richard M. Mescher, of Porter, Wright, Morris & Arthur, Columbus, Ohio, for defendant-appellee.

Judge:

Before Mayer, chief judge, Rader and Gajarsa, circuit judges.

Opinion Text

Opinion By:

Rader, J.

On summary judgment, the United States District Court for the Southern District of Ohio found Trintec Industries, Inc.'s United States Patent No. 5,818,717 ('717 patent) invalid as inherently anticipated. *Trintec, Indus. v. Top-U.S.A. Corp.*, No. C-2-99-1179 (S.D. Ohio Jun. 19, 2001). Because the '717 patent is not inherently anticipated, this court vacates and remands.

I.

Trintec is the assignee of the '717 patent. The inventor, Brendon G. Nunes, filed the '717 patent application on June 2, 1993. The '717 patent claims a cost-effective method of producing, in low volume, multicolor faces for watches, clocks, thermometers and other instruments. The method includes making a graphic instrument face in a computer, transmitting electronic signals from the computer to a color printer or photocopier, printing the face on sheet material, cutting it, and assembling it into an instrument.

Top-U.S.A. Corporation produces watches and clocks with customized faces, and has done so for over eighteen years. Initially, Top created and printed its customized graphics using pad printing, engraving, silk screening, or photography. Those methods were expensive and required extensive set-up time. Thus, these older methods were ill-suited to small-volume custom design and printing. Desktop publishing's advent in the late 1980s mitigated the design side of this problem, but high-resolution color printing remained prohibitively expensive. With color laser printer advances, however, Top was using that technology to make custom watches and clocks by 1995.

Sweda Company LLC also is in the customized watch business. In a 1991-92 catalogue (Sweda catalogue), Sweda advertised the availability at an inexpensive price of small-volume multi-color watches produced by "a new computer laser printer." The Sweda catalogue was not before the examiner of the '717 patent during its prosecution.

On November 2, 1999, Trintec asserted the '717 patent against Top in the district court. Trintec alleged that Top infringed independent claims 3 and 8, and associated dependent claims 4-5, 12, and 13. Trintec filed a motion for summary judgment of infringement, intentional infringement, and validity. Top filed a cross-motion for summary judgment that the asserted claims either were anticipated or obvious in view of the Sweda catalogue. The district court found that the Sweda catalogue inherently anticipated the asserted claims and granted summary judgment of invalidity. Having determined that prior art anticipated the '717 patent, the district court did not reach obviousness and dismissed the case with prejudice. Trintec appeals the district court's summary judgment of invalidity. This court has jurisdiction under 28 U.S.C. § 1295(a)(1) (2000).

III.

This court reviews a district court's grant of summary judgment without deference. *Johns Hopkins Univ. v. Cellpro, Inc.*, 152 F.3d 1342, 1353, 47 USPQ2d 1705, 1713 (Fed. Cir. 1998). This court also reviews without deference questions of claim construction. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1174 (Fed. Cir. 1998) (*en banc*). Novelty, or anticipation, is a question of fact. *Akzo N.V. v. United States Int'l Trade Comm'n*, 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986). Therefore, a district court properly may grant summary judgment

on this identity question only when the record discloses no genuine material factual issues.

Because novelty's identity requirement applies to claims, not specifications, *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 7 USPQ2d 1057, 1064 (Fed. Cir. 1988), the anticipation inquiry first demands a proper claim construction. Claim language defines claim scope. *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121, 227 USPQ 577, 586 (Fed. Cir. 1985) (*en banc*). As a general rule, claim language carries the ordinary meaning of the words in their normal usage in the field of invention. *Toro Co. v. White Consol. Indus.*, 199 F.3d 1295, 1299, 53 USPQ2d 1065, 1067 (Fed. Cir. 1999). Nevertheless, the inventor may act as his own lexicographer and use the specification to supply implicitly or explicitly new meanings for terms. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-80, 34 USPQ2d 1321, 1330 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 [38 USPQ2d 1461] (1996). Thus, a construing court may consult as well the written description, and, if in evidence, the prosecution history. *Id.*

A single prior art reference anticipates a patent claim if it expressly or inherently describes each and every limitation set forth in the patent claim. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Inherent anticipation requires that the missing descriptive material is "necessarily present," not merely probably or possibly present, in the prior art. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citing *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991)).

In this case, the district court determined that the Sweda catalogue anticipated, or disclosed and enabled each and every element of, the claimed invention. The Sweda catalogue advertises three different methods of making customized watches: a "full color watch rendering" method, a "mock-up sample" method, and a "speculative sample" method. The catalogue states that the first two methods use a computer laser printer, and the "speculative samples" method uses silk-screening, hot stamping, color process/offset printing, etchograph stamping, or engraving. The catalogue then shows images of color watch faces made with each of the advertised methods. All three methods require the customer to submit "camera ready, color separated artwork," i.e.,

separate pieces of black and white artwork representing each color in the design.

Top concedes that the Sweda catalogue does not teach expressly all limitations of the asserted claims. Hence, the only issue for this court to determine is whether the claim limitations not taught expressly by the Sweda catalogue are nevertheless disclosed inherently. This inherent anticipation question implicates claims 3 and 8. Claim 3 recites, in relevant part:

3. A method of constructing a functional multicolor element having indicia thereon, utilizing a computer and a *color photocopier*, comprising the steps of:
 - (a) electronically creating or providing in the computer an electronic simulation of the desired functional multicolor element, with indicia thereon;
 - (b) under the control of the computer, transmitting electronic signals from the computer to the *photocopier* so that the *photocopier* transforms the electronic simulation of the desired functional multicolor element onto a piece of sheet material

Col. 7, ll. 16-26 (emphases added).

The district court construed the term “color photocopier” to mean a “color printer.” The district court noted that the Sweda catalogue expressly advertises: “A color picture of your customers custom logo produced by our new advanced computer laser printer.” Based on this, the district court determined that the Sweda catalogue inherently disclosed a color printer because “those in the graphic arts industry would have recognized that a color printing device is necessarily present in the catalogue’s description of ‘a full color rendering’ produced from a ‘computer laser printer.’” Nevertheless, a color printer is not a color photocopier.

[1] The '717 patent specification teaches that a “major component” of the invention “is a printer, preferably a color photocopier.” Col. 3, ll. 62-64. At the same time, the patent also recognizes that a color photocopier does more than print in color –it copies. Specifically, the specification teaches “photocop[ying] with a color photocopier, such as of the types earlier described.” Col. 6, ll. 20-21. The undisputed trial testimony of Dr. Steven J. Bares underscores this point: “Digital color copiers comprise

a digital color scanner and a digital color laser printer which are directly connected together so that graphics transformed into digital information through the scanner are transmitted to the digital color laser printer for printing." As a matter of correct claim construction, therefore, a "color photocopier" requires the ability both to print and photocopy subject matter with color.

The difference between a printer and a photocopier may be minimal and obvious to those of skill in this art. Nevertheless, obviousness is not inherent anticipation. *Jones v. Hardy*, 727 F.2d 1524, 1529, 220 USPQ 1021, 1025 (Fed. Cir. 1984) ("though anticipation is the epitome of obviousness, [they] are separate and distinct concepts"). Given the strict identity required of the test for novelty, on this record no reasonable jury could conclude that the Sweda catalogue discloses either expressly or inherently a color photocopier. Because claim 3 is not inherently anticipated, dependent claims 4 and 5 also are not anticipated.

Claim 8 recites, in relevant part:

8. A method of producing an instrument face having functional indicia thereon, utilizing a computer and printer, comprising the steps of:

(a) *creating* the instrument face with functional indicia thereon *in the computer* in electronic format

Col. 8, ll. 1-5 (emphases added). While claim 3 has the broader language "creating or providing," claim 8 recites only "creating." Nonetheless, the district court interpreted both claims to require "*creating or providing* in a computer a multicolor logo and hour markings to comprise the face of an instrument." (Emphasis added.) The district court found that the Sweda catalogue inherently anticipated "creating or providing" as required by its claim construction. Because claim 8 requires "creating" rather than "creating or providing," the district court erred in its construction of that claim and in its corresponding determination of inherent anticipation.

[2] The '717 patent does not define expressly "creating" or "providing." The two terms, however, have distinct meanings. Each term appears in claim language. Each therefore imparts a different scope to the claim in which it appears. *See, e.g., Unique Concepts, Inc. v. Brown*, 939 F.2d 1558,

1562, 19 USPQ2d 1500, 1503 (Fed. Cir. 1991) ("The fact that mitered linear border pieces meet to form a right angle corner does not make them right angle corner pieces, when the claim separately recites both linear border pieces and right angle corner border pieces.").

In its teachings, the specification treats the two terms differently. For example, with respect to preparing an instrument face for printing, the specification describes a two step process: "The artwork ... is *created in electronic format in the computer. Information may initially be inputted into the computer for this purpose* from a conventional scanner or a CD ROM." Col. 4, ll. 7-11 (emphasis added). In sum, the patent recognizes that information may be provided (input) into the computer after creation elsewhere or, alternatively, may be created in the computer from scratch. Regarding the creating step, the specification further teaches that "commercially available software programs" may be used to "produce almost any design desired on an instrument face." Col. 4, ll. 11-14, 18. In view of these teachings, this court construes "creating" to require more than simply using the computer as a conduit to convey information to the printer from a scanner or a CD ROM. Creating requires, rather, a substantive addition or modification of the artwork in the computer, such as when graphics software adds a design to an instrument face.

The Sweda catalogue discloses, as discussed above, various printing methods. These printing methods disclose nothing about creating artwork in a computer. For this reason, the Sweda catalogue does not inherently anticipate claim 8. Specifically, the Sweda catalogue may well have created instrument faces with conventional manual methods. Then after manual creation or assembly, the Sweda catalogue may have provided those faces to a computer only for printing. Indeed, the Sweda catalogue required expressly that its customers provide color separations of their artwork. The record suggests that those of skill in this art use color separations to create manually a composite color rendering of the desired image. Then a black and white laser printer makes separate transparent color sheets based on the color separations. Finally, the artisans overlay the separate color sheets manually to form a composite color rendering of the desired image. This process requires no substantive addition or modification of the artwork in the computer — as mandated by a correct

Page 1601

reading of the term "create." In other words, the process suggested by the Sweda catalogue

combines the color sheets outside of the computer, with the computer serving merely as a conduit for printing. It is irrelevant that a skilled artisan might possibly use the computer to create the final desired image from the color separations. Inherency does not embrace probabilities or possibilities. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999). In sum, no reasonable jury could find that the Sweda catalogue anticipates either expressly or inherently this claim.

Cases involving novelty, with its strict identity requirement, are quite rare. Obviousness seems the actual issue here. This court, however, cannot reach that question without a fully developed record. Obviousness involves, for instance, questions of suggestion to combine, *see, e.g.*, *In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998), and objective indicators of patentability, *see, e.g.*, *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 [148 USPQ 459] (1966). On appeal, this court cannot venture into these factual and complex areas without a developed record. Accordingly, this record requires remand to permit the trial court to apply the obviousness standards in light of the Sweda catalogue and other prior art as viewed with the knowledge of one of skill in the art at the time of invention.

CONCLUSION

Because the district court erred in granting summary judgment that claims 3-5, 8, 12, and 13 are inherently anticipated, this court vacates and remands for a determination on the issue of obviousness and other proceedings consistent with this opinion.

COSTS

Each party shall bear its own costs.

VACATED AND REMANDED

- End of Case -

Full Text of Cases (USPQ2d)

A0A5W0G2M2